

traffic is generally controlled by the spacing of major intersections, the width of pavement, and the traffic control devices utilized. Thus, the ability of a street to move traffic can be increased to some degree by restricting parking and turning movements; using proper sign and signals devices; and by the application of other traffic engineering techniques. Capacity is defined as the maximum number of vehicles which has a reasonable expectation of passing over a given section of a roadway in one direction, or in both directions, during a given time period under prevailing roadway and traffic conditions. The relationship of traffic volumes to the capacity of the roadway will determine the level of service being provided. Six levels of service have been selected to identify the conditions existing under various speed and volume conditions on any highway or street (See Appendix D). The level of service usually suitable for urban design practice is level of service C and is defined as being in the zone of stable flow with most drivers restricted in their freedom to select their own speed, change lanes, or pass (usually new roads). A relatively satisfactory operating speed is attained at this level of service. Thoroughfare plan improvements are generally designed to the level of service D.

The Whiteville/Brunswick central area is characterized by a gridiron pattern. The other areas are served by radial streets. The existing road network has three main facilities which go through the urban area. They are US 74/76 Bypass, US 701 Bypass, and NC 130. US 701 Bypass and NC 130 experience heavy through traffic during the summer season from beach goers. The majority of the facilities in the urban area function adequately in moving traffic with the exception of US 701 Business downtown. The lack of crosstown facilities connecting in a loop system is the only road network deficiency.

Traffic Safety

Traffic accident analysis is a serious and important consideration in thoroughfare plan development. The source of traffic accidents can be broken down into three general categories. The first is the physical environment which includes such things as road condition, weather, road obstructions, and traffic conditions. The second source is associated with the driver. This includes the driver's mental alertness, distractions in the car, ability to handle the vehicle, and reaction time. The third source is the physical attributes of the vehicle. This includes such things as the condition of the brakes and tires, vehicle responsiveness, size of the vehicle, and how well the windshield wipers and defroster work. All traffic accidents can be attributed to one or more of these sources; however, the driver is often the primary source.

Traffic accident records assist in defining deficient areas in the highway system. It is a good indicator of where the highway system breaks down. Accident patterns, revealed in accident data, are effective in the improvement decisions of a highway system. The traffic accident data received for the urban area had certain criteria. They were (1) accidents documented between January 1991 and December 1993; (2) accidents occurring a minimum of 200 feet from the intersection; and (3) a minimum of fifteen accidents at an intersection. See Figure #4 for Traffic Accident Profile locations.